Research Article

Assistance Influence on Labor Pain Level

Pengaruh Pendampingan terhadap Tingkat Nyeri Persalinan

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Abstract

Objective: To assess assistance influence on labor pain level.

Method: This study was a randomized-clinical, unmasked trial with concealment by measuring labor pain level in two patients group: with and without assistance during labor; each group consisted of 36 subjects. Pain intensity were measured using Faces Pain Rating Scale. Mann-Whitney analysis was done to assess significance of pain level between two groups.

Result: Majority of patient who were in non-assisted group had very painful score 50% with mean of VAS 7.38±2.12, meanwhile most of assisted group complained painful score 44.44%, with mean of VAS 6.11±1.90.

Conclusion: There was significance level of painful score between non-assisted and assisted subjects x($p<0.05$). Assistance had more impact in decreasing labor pain level in primigravida subjects.

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Keywords: assistance, labor pain, visual analog scale (VAS)

Abstrak

***Tujuan**: Untuk mengetahui pengaruh pendampingan terhadap tingkat nyeri persalinan.*

***Metode**: Menggunakan desain uji klinis acak tidak tersamar dengan metode penyembunyian dengan cara mengobservasi dan mengukur tingkat nyeri selama persalinan pada dua kelompok pasien, yaitu kelompok pasien dengan pendampingan dan kelompok pasien tanpa pendampingan; dengan jumlah pasien 36 orang tiap kelompok. Nyeri persalinan diukur dengan menggunakan metode Faces Pain Rating Scale. Analisis dilakukan dengan uji Mann-Whitney.*

***Hasil**: Tingkat nyeri pada ibu yang tidak didampingi lebih tinggi daripada ibu yang didampingi, di mana yang merasakan sangat nyeri pada ibu yang tidak didampingi sebesar 50%, dengan rata-rata VAS 7,38 ±2,12, sedangkan pada ibu yang didampingi merasakan nyeri 44,4%, dengan VAS 6,11±1,90.*

***Kesimpulan**: Terdapat perbedaan bermakna antara pendampingan dan tanpa pendampingan ($p<0,05$).*

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***Kata kunci**: nyeri persalinan, pendampingan, visual analog scale (VAS)*

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INTRODUCTION

Labor pain is affected by interaction of physical, psychological, environment and supportive factors which are complex and subjective.[1] Support and presence of family members during labor process were stated as factors which also affected labor pain.[2] However, in the past, husbands' assistance during labor was not allowed in order to avoid infection in delivery room.[3] Whereas, from previous studies, it was showed that mothers who were assisted during labor underwent less pain, shorter delivery time, and lower risk for any surgeries.[4] Presence of assistants now become a recommendation for normal delivery process. Supportive measures consist of continuous presences during active period of labor or giving touch and compliments which make comforts.

Objectively, labor pain was assessed by visual analog scale (VAS).[5] Besides assistance, many other factors were reported playing role in affecting VAS in laboring mothers, such as: fear, age, gravida, parity, and education level.[6,7] However, other study gave different results: there were no significances between several assessed variables (age, parity, duration of stage II delivery, babies birth weight) and labor pain intensity.[8]

This study have main focus in assessing specifically assistance influence on labor pain level. Similar studies were still limited. The results of this study were expected to become a helpful measures in making clinical decision about laboring assistances in the future.

METHODS

This study was a randomized clinical unmasked trial with concealment by measuring labor pain level during period October 2012 - March 2013 in two patients groups: with and without assistance during labor; each groups consisted of 36 subjects.

Gestational age, and being in stage I of delivery. Those who were with any comorbidities or complications, cephalopelvic disproportion (CPD) suspect, got analgetic therapy, or planned to use sectio-caesarea method, were excluded from this study. Subjects allocation were randomized by third party and then concealed. All subjects were treated equally: underwent process of history taking, physical examination, laboratory examination, ultrasonography (USG) examination and cardiotocography (CTG) examination.

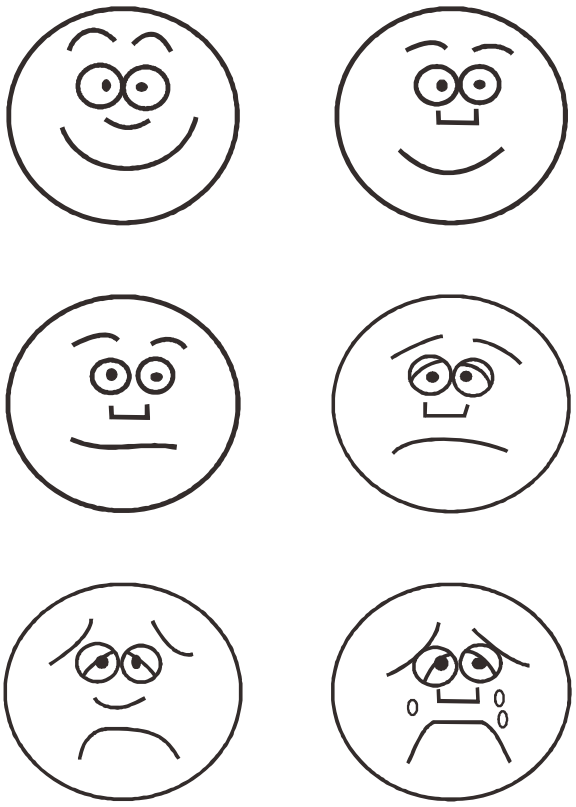
Patients Assistance

Assisted patients could choose their own assistants. However, the assistants needed to do special instructions of actions done in order to get uniform measures of assistances. Specified actions were : providing drinks between any contractions, assisting during micturition, giving support when patients groaned in pain, taking a walk with patients, massaging low back part of patients, consoling, giving hope and strenghtening patients mind. Besides, assistants needed to deliver patients' message to the health workers, help patients to be in proper position during labor, give courage during straining phase, and be in patients' side during labor until birth phase.

Pain Measurement and Analysis

Pain intensity during labor were measured using Faces Pain Rating Scale (Wong Baker® Visual Analogue Scale); categorically were as follows: 0 = not painful, 2 = quite painful, 4 = moderate painful, 6 = painful, 8 = very painful, and 10 = most painful (Figure 1). Descriptive data were presented in the form of frequency and percentage, consisted of age group, occupation, education level, gestational check-up frequency, and parity variables. VAS data were assessed using independent T-test when data distribution was normal. Otherwise, analysis was done.

The subjects chosen were laboring mother with spontaneous delivery method, aterm using Mann-Whitney test. However, it was found that data distribution was not normal, so that Mann-Whitney test was the one used. Correlation between independent variables and labor pain level was assessed using correlation test of Spearman. This study was approved by Medical Research and Ethichal Committee, Faculty of Medicine, University of Indonesia: 686/H2.F1/ETIK/2012.



RESULTS

Subjects Characteristics

Subjects age ranged from 17 to 45 years old, with median of 29 years. Most of the subjects were housewives (83.33% in non-assisted group; 77.78% in assisted group) and had gestation check-up frequency more than four times (75.00% in non-assisted group; 66.67% in assisted group). In assisted group, 66.67% of subjects were assisted by their own husbands (Table 1).

Table 1. Subjects Characteristics

Variables		Non-assisted n (%)	Assisted n (%)
Age group	a) <20 years	3 (8.33)	4 (11.11)
	b) 21- 30 years	20 (55.56)	19 (52.78)
	c) >30 years	13 (36.11)	13 (36.11)
Occupation	a) Labor	1 (2.78)	0 (0.00)
	b) Merchant	1 (2.78)	0 (0.00)
	c) Private employees	2 (5.56)	5 (13.89)
	d) Nurse/Government employees	1 (2.78)	2 (5.56)
	e) Housewives	30 (83.33)	28 (77.78)
	f) Enterpreneur	1 (2.78)	1 (2.78)
Education level	a) Elementary school	4 (11.11)	5 (13.89)
	b) Junior high school	3 (8,33)	4 (11.11)
	c) Senior high school	26(72.22)	23(63.89)
	d) Diploma	3 (8,33)	4 (11.11)
Gestation check-up Frequency	a) > 4x	27(75.00)	24 (66.67)
	b) 4x	5 (13.89)	5 (13.89)
	c) < 4x	4 (11.11)	7 (19.44)
Gravida	a) G1	14 (38.89)	15 (41.67)
	b) G2	8 (22.22)	8 (22.22)
	c) G3	10 (27.78)	9 (25.00)
	d) G4	4 (11.11)	3 (8.33)
	e) G5	0 (0.00)	1 (2.78)
Assistants	a) Husband	0 (0.00)	24 (66.67)
	b) Other than husband	0 (0.00)	12 (33.33)

Assistances and Pain Level

Differences of VAS score between non-assisted and assisted subjects were showed in Table 2. Majority of patients who were in non-assisted group had very painful score (50%), followed by most painful score (19.44%). Meanwhile, in assisted subjects, most of them complained painful score (44.44%), followed by very painful score (25.00%). Non-assisted subjects had mean of VAS 7.38±2.12, while assisted subjects had 6.11±1.90. There was significance of painful score between non-assisted and assisted subjects ($p < 0.05$) by Mann-Whitney test.

Table 2. Visual Analog Scale Comparison between Assisted and non-Assisted Subjects.

VAS	Non-assisted (n=36)		Assisted (n=36)	
	n	%	n	%
		5.5		5.5
2	2	6	2	6
		8.3		19
4	3	3	7	44
		16		44
6	6	67	16	44
		50		25
8	18	00	9	00
		19		5.5
10	7	44	2	6
Mean±SD	7.38 ± 2.12		6.11 ± 1.90	
Median (range)	8 (2-10)		6 (2-10)	

Correlation analysis was done using patients' characteristic as independent variables, consisting : age, gravida, education level and gestation check-up frequency. There were very low inverse correlations but there were no significances between mentioned variables and labor pain level using Spearman's correlation analysis (Table 3).

Table 3. Correlation between Subjects' Characteristics and Labor Pain Level.

Variables	Spearman's Correlation	p
Age	-0.128	0.902 (ns)
Gravida	-0.024	0.845 (ns)
Education level	-0.182	0.126 (ns)
Gestation check-up frequency	-0.035	0.768 (ns)

Labor pain was further differentiated into category based on gravida: primigravida and multigravida. The mean of labor pain was higher in primigravida non-assisted group with mean 8.3 ±2.20 than in primigravida assisted group (6.1± 1.92). Meanwhile, multigravida group has quite similar labor pain, respectively for non-assisted and assisted: 6.8±1.92 and 6.1±1.95 (Table 4).

Table 4. Labor Pain Level and Parity Status.

Pain Level	Primigravida		Multigravida	
	Non-assisted	Assisted	Non-assisted	Assisted
2	1 (2.78)	1 (2.78)	1 (2.78)	1 (2.78)
4	0 (0.00)	3 (8.33)	3 (8.33)	4 (11.11)
6	1 (2.78)	5 (13.89)	5 (13.89)	11(30.56)
8	6 (16.67)	6 (16.67)	12 (33.33)	3 (8.33)
10	6 (16.67)	0 (0.00)	1 (2.78)	2 (5.56)
Total	14 (38.89)	15 (41.67)	22 (61.11)	21 (58.33)
Mean±SD	8.3±2.20	6.1±1.92	6.8±1.92	6.1±1.95

DISCUSSION

There was significant difference of labor pain intensity between subjects who were assisted and subjects who were not assisted during labor process ($p < 0.05$). This was possible due to their feeling of comfort, courage, and emotional support, all of which could strenghten subjects in their labor phase. Active attitude of the assistants, just as applied in this study, purposely gave support to decrease anxiety and pain level in mothers/patients. Psychology factor had a big role in affecting pain during labor, especially in the form of anxiety. This anxiety further caused fear and stress during delivery process. Stress could trigger production of excessive stress hormones, such as catecholamine and steroid. Those hormones induced smooth muscle tension and vascular vasoconstriction and led to decreased contraction of uterus, decreased uteroplacenta circulation, decreased consumption of oxygen to uterus, and generated ischemic condition of uterus, in which resulted in the increasing of pain impulse.[9-11]

In previous studies by Chunuuan et al and Henneborn et al were stated that family support could decrease anxiety and pain. Husbands active-role in assisting labor process could also increase mothers' self esteem, in example by reminding breathing and straining technique or by helping communicate with midwives.[12] Husbands' assistance role in decreasing anxiety was proven in several studies in United Kingdom, Finlandia and Hungaria.[13] Meanwhile study in Iran and China proved that husbands' presence could lower pain perception so that analgetic medicines administration during labor could be diminished.[14]

While husbands' role were proven significant, among assisted subjects during her labor, 12 subjects (33%) chose their trusted ones aside from their husbands (mother, mother in law, or sister). One of the reasons stated by subjects was their comfort when accompanied by fellow women. Cultures and beliefs played significant role in this comfort feeling; for example was Nepal. In Nepal, husbands' assistance was not something common because husbands were prohibited from touching blood products or vaginal fluid, which were believed as dirty things.[15] Quite similar reason was proposed by Russian women. They rejected their husbands' presence because they were anxious that their husbands would emotionally unable to see blood during labor process which could lead to loss of sexual desire after delivery.[15] Other than that reasons, there were guilty and shame feeling when their husbands saw and heard while they were screaming in pain, as well as discomfort feeling when their husband should take care all delivery needs.[12]

In this study, the labor assistant were given specific instruction about their actions and attitude. This intervention was given in order to get uniform and active attitude considering that every individual (assistant) came from different backgrounds, education level, and personality. Out of ten instructed attitudes, most of the assistants did as instructed. It showed that there were positive expectable supports which could help subjects in perceiving less pain. Therefore, the husbands or assistants should be given proper information about things to do during delivery psychologically and practically to help the mothers controlling pain perception.[16]

It is interesting to see the fact that in non-assisted primigravida subjects, there were higher pain level (8.3±2.20) compared to unaccompanied primigravida (6.1±1.92). It was also higher when compared to either non-assisted and assisted multigravida (6.8±1.92 and 6.1±1.95 respectively). It showed us that assistance had big impact in decreasing pain level, especially in primigravida subjects. This is possible due to positive psychological support from assistants so that the mother who experienced delivery process for the first time could feel calmer and be less anxious; led to decreased level of pain. Meanwhile, in multigravida, either non-assisted or assisted had quite similar pain level. It could root from psychological readiness from previous labor experience so that mothers had already adapted in the current labor process. In contrast with this study, previous study which assessed pain level when mother assisted by midwives, didn't show significance with pain level in primigravida and multigravida 8.31±0.99 and 8.37 ±1.17 respectively. Same insignificance were also obtained from different studies, in which 76.3% in primipara group and 73.3% in multipara group had pain level ≥ 8 ($p = 0.63$).[16]

CONCLUSION

This study discovered that there were significance level of labor pain between subjects who were assisted and not-assisted during delivery or labor process ($p < 0.05$). However, there were no correlation between subjects characteristics as independent variables (consisted of age, education level, parity, and gestation check-up frequency) and labor pain level. Assistance had more impact in decreasing labor pain level in primigravida subjects, while there were no difference of pain level between assisted and non-assisted multigravida in labour process.

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